Claim 16, line 34, delete "any one of claims 2 to 15" and insert -- Claim 2 --.

Claim 21, line 22, delete "any one of claims 18 to 20" and insert -- Claim 18 --.

Claim 23, line 31, delete "any one of claims 18 to 22" and insert -- Claim 18 --.

Claim 26, line 6, delete "either claim 24 or 25" and insert -- Claim 24 --.

Claim 27, line 11, delete "any one of claims 24 to 26" and insert -- Claim 24 --.

Claim 28, line 15, delete "any one of claims 24 to 27" and insert -- Claim 24 --.

Claim 29, line 20, delete "any one of claims 24 to 28" and insert -- Claim 24 --.

Claim 31, line 27, delete "any one of claims 24 to 30" and insert -- Claim 24 --.

Claim 35, line 19, delete "either claim 33 or 34" and insert -- Claim 33 --.

Claim 36, line 32, delete "any one of the preceding claims" and insert -- Claim 1 --.

Claim 38, line 10, delete "any one of the preceding claims" and insert -- Claim 1 --.

PLEASE ADD THE FOLLOWING CLAIMS

40. A method as claimed in Claim 3, wherein steps (1) and (2) are repeated a plurality of times to obtain a plurality of measurements of injection pressure profile and said injection pressure profile is determined from a mean of said measurements.

41. A method as claimed in Claim 4, wherein steps (1) to (5) are repeated a plurality of times, thereby progressively refining said velocity profile.

42. A method as claimed in Claim 5, wherein step (5) comprises increasing said injection velocity where said pressure profile is less than said mean pressure profile, and decreasing said injection velocity where said pressure profile is greater than said mean pressure profile.

43. A method as claimed in Claim 6, wherein said mean pressure profile is linear.

44. A method as claimed in Claim 6, wherein said pressure profile is in the form of a derivative pressure profile, obtained by differentiating said pressure profile with respect to time.

45. A method as claimed in Claim 8, wherein said method includes determining a relationship between the injection velocity and said pressure profile by perturbing said injection velocity about a predetermined velocity.

46. A method as claimed in Claim 11, wherein said perturbation of said injection velocity is by predetermined amounts.

47. A method as claimed in Claim 13, wherein said pressure profile is derived from hydraulic injection pressure.

48. A method as claimed in Claim 13, wherein said pressure profile is derived from melt flow pressure.

49. A method as claimed in Claim 15, wherein said method includes determining a viscosity model by performing a material test of the injection melt material.

50. A method as claimed in Claim 20, wherein said initial packing/holding pressure is incremented by between 2% and 25% of said end of velocity control phase pressure.

51. A method as claimed in Claim 22, including measuring kickback for a plurality of initial packing/holding pressures, predicting an optimum initial packing/holding pressure form said measurements to minimize kickback, and incrementing said initial packing/holding pressure to said optimum initial packing/holding pressure.

52. A method as claimed in Claim 25, wherein the value of said holding time employed in step (6) is greater than that defined in step (1) by a factor of between 1 and 3.

53. A method as claimed in Claim 26, wherein said predetermined default value is the greater of 2 times injection time and one second.

54. A method as claimed in Claim 27, wherein said stabilization occurs when said pressure stroke changes by less than a predetermined tolerance between successive measurements.

55. A method as claimed in Claim 28, wherein said holding time is incremented in step (4) by between 5% and 50%.

56. A method as claimed in Claim 30, wherein said predetermined tolerance is between 2% and 10%.

57. A method as claimed in Claim 34, wherein said step (5) includes the additional steps of:

(viii) repeating steps (vi) and (vii), and defining an initial solidification time between said packing time and said gate freeze time;

(ix) repeating steps (vi) and (vii), and defining an intermediate solidification time between said packing time and said initial solidification time; and

(x) determining an intermediate pressure from the ratio of the screw displacements at said intermediate time and at said gate freeze time, referenced to said packing time.

58. A method as claimed in Claim 35, including:

determining said machine's velocity control response time, and

employing time steps equal to of greater than said response time.